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a) bringing the sample into contact with an *H. pylori* bacterial strain having an aflagellate phenotype resulting from a mutation in the *flbA* gene of said *H. pylori* bacterial strain (such that either the *flbA* gene is no longer expressed in the *H. pylori* bacterial strain, or the expression of the *flbA* gene in the *H. pylori* bacterial strain does not enable the A and B flagellins or the sheath that contains them to be biosynthesized and, if this is the case, does not enable the *H. pylori* anchoring protein or the hook to be synthesized;) and

b) detecting an immunological reaction between the bacterial strain and antibodies directed against *H. pylori* and which are present in the sample.

44. The method as claimed in claim 43, wherein the aflagellate *H. pylori* strain also does not express the hook protein of *H. pylori*.

45. The method as claimed in claim 43, wherein the *H. pylori* bacterial strain is obtained from strain N6 having deposit Accession No. NCIMB 40512.

46. The method as claimed in claim 43, wherein the aflagellate strain of *H. pylori* is strain N6flbA⁻ having deposit Accession No. NCIMB 40747.

47. The method as claimed in claim 43, wherein the biological fluid is human serum, saliva, or urine.

48. The method as claimed in claim 43, wherein the immunological reaction is detected by Western blot or ELISA.

49. Method for the *in vitro* detection of an infection due to *H. pylori* in a sample of biological fluid from a patient, wherein the method comprises:

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a) bringing the sample into contact with a bacterial extract from an *H. pylori* bacterial strain having an aflagellate phenotype resulting from a mutation in the *flbA* gene of said *H. pylori* bacterial strain such that either the *flbA* gene is no longer expressed in the *H. pylori* bacterial strain, or the expression of the *flbA* gene in the *H. pylori* bacterial strain does not enable the A and B flagellins or the sheath that contains them to be biosynthesized and, if this is the case, does not enable the *H. pylori* anchoring protein or the hook to be synthesized; and

b) detecting an immunological reaction between the bacterial extract and antibodies directed against *H. pylori* and which are present in the sample.

50. The method as claimed in claim 49, wherein the aflagellate *H. pylori* strain also does not express the hook protein of *H. pylori*.

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51. The method as claimed in claim 49, wherein the *H. pylori* bacterial strain is obtained from strain N6 having deposit Accession No. NCIMB 40512.

52. The method as claimed in claim 49, wherein the aflagellate strain of *H. pylori* is strain N6flbA⁻ having deposit Accession No. NCIMB 40747.

53. The method as claimed in claim 49, wherein the biological fluid is human serum, saliva, or urine.

54. The method as claimed in claim 49, wherein the immunological reaction is detected by Western blot or ELISA.

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55. The method as claimed in claim 49, wherein the bacterial extract is a total bacterial extract of an aflagellate strain of *H. pylori*.

any aflagellate strain

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56. The method as claimed in claim 49, wherein the bacterial extract is a n-octyl glucoside extract of strain N6flbA⁻ having deposit Accession No. NCIMB 40747.

57. The method as claimed in claim 43 or claim 49, wherein the *H. pylori* bacterial strain, or the bacterial extract of the said bacterial strain, is selected from the group consisting of:

- (a) a bacterial strain lacking the hook protein of *H. pylori*;
- (b) a recombinant bacterial strain obtained from the strain N6 (NCIMB 40512);
- (c) a recombinant bacterial strain obtained from the strain N6 (NCIMB 40512) and lacking the hook protein of *H. pylori*;
- (d) a recombinant bacterial strain obtained from the strain N6flbA⁻ (NCIMB 40747); or
- (e) a recombinant bacterial strain obtained from the strain N6flbA⁻ (NCIMB 40747) and lacking the hook protein of *H. pylori*.

58. The method according to claim 57, wherein the bacterial extract is obtained after extracting with n-octyl glucoside.

59. The method according to claim 57, wherein the bacterial extract is obtained after extracting with PBS or with glycine.

60. The method according to claim 57, wherein the *flbA* gene is SEQ ID NO:6.

61. The method according to claim 43 or claim 49, wherein the *flbA* gene is SEQ ID NO:6.--

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